



Coffee Break Training - Fire Investigation Series

Fire/Arson and Explosion Investigation Curriculum: Processing a Fire Scene for Evidence

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Learning Objective: The student shall be able to identify the necessary steps to properly preserve, collect and document evidence at fire scenes for laboratory analyses and use in court proceedings.

Fire investigators must control access to the fire scene after fire suppression to ensure that evidence is properly preserved, collected, documented and transported to avoid contamination. The investigator should also ensure that packaging, transportation and storage procedures are meticulously followed to prevent any destructive changes in the condition of evidence or lapses in the chain of custody.

The following guidelines should be followed to avoid potential challenges to the introduction of evidence in legal proceedings due to claims of contamination or chain-of-custody issues:

- Maintain the chain of custody of evidence at all times to include all transfers and final disposition.
- Document the location of evidence using written notes, sketches, photographs and logs.
- Place evidence in labeled containers for transportation and preservation. Ignitable liquid evidence collected for laboratory analysis must be immediately placed in clean, unused, vapor-tight containers (e.g., clean, unused paint cans; laboratory-approved nylon or polyester bags) and then properly sealed.
- Label each container so that it is uniquely identified including the name of the investigator, date and time of collection, case number, sample number, description and location of recovery.
- Collect and preserve suitable comparison samples (if available and required).
- Package evidence in accordance with laboratory policies and procedures.
- Recognize the presence of other physical evidence, such as bloodstains, shoe prints, tire impressions, latent prints and trace evidence, and use proper preservation and collection methods.
- Recognize that fuel-powered tools and equipment present potential contamination sources and should be avoided.
- Use clean or disposable tools and gloves for collecting items of evidence. To avoid cross-contamination, gloves should be changed between collecting unrelated items of evidence or when visibly soiled per the recommendations outlined in National Fire Protection Association 921, *Guide for Fire and Explosion Investigations*.
- Store and ship in separate packages fire debris evidence containers collected from different scenes.
- Maintain written records documenting the sample number, description of the evidence, date and location where it was found and collector's name.

Strict compliance with agency policies, protocols and recommended guidelines related to the collection of evidence will ensure a complete and successful investigation and avoid admissibility challenges in legal proceedings.

Additional information on fire scene evidence processing can be obtained from the *Introduction to Evidence and Physical Evidence at the Fire Scene* online training modules at www.cftrainer.net.



Proper evidence collection practices help to prevent potential contamination issues and admissibility challenges at trial.
Photo courtesy of Maryland State Fire Marshal's Office